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Social audit - an ideal method for neutralising conflict situations in aquaculture industry

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ABSTRACT

The environmental issues hampering the development of aquaculture in India is briefly reviewed. The genesis of conflicts among different stakeholders is analyzed. The concept of social audit in aquaculture industry is introduced. The process by which social audit could catalyze neutralization of factors of conflict and evolve a transparent environment is discussed in the background of the information obtained from a preliminary survey.

Introduction

Coastal aquaculture expanded rapidly in a very short span of time in our country, especially in the states of Andhra Pradesh and Tamil Nadu. The consequences of this unbridled expansion brought in its wake a number of problems similar to those experienced in many South East Asian countries. Concentration of farms in certain localities had compounded the issues related to disposal of waste and enhanced the rapid spread of diseases. The industry suffered heavy loss during a few years

shortly after the boom and many corporate farms, unable to cope up with the uncertainties, wound up their business.

Increased awareness of the adverse impacts of coastal aquaculture among the stakeholders manifested in the form of protests and representations calling for legal intervention. The obvious lacunae in the existing legal regime for protecting the coastal zone were more than filled by the now famous Supreme Court Judgment dated 11-12-1996. As directed in the judgment, Aquaculture Authority has been established to implement the 'precautionary principle' and 'polluter pays principle'. With powers for drastic measures such as demolition of farms violating the CRZ notification bestowed on the Authority, The explosive development of aquaculture has come to a grinding halt. Modern society is becoming more and more conscious about the environmental issues and the impact of this could be seen all over the world. All activities having environmental impact are being critically viewed for control and regulation. Entities engaged in activities causing environmental damage are either restricted or are forced to seek preventive measures. Environmental audit is becoming mandatory for all enterprises in our country and currently there are about eighty firms practicing the same (Anon, 1999).

The inevitable consequence of any system that gets stuck up with legalities is that sooner or later the system will move towards inactivity (Fig. 1). In a typically bureaucratic set up like ours, the system reaches inactive phase much faster. The development of aquaculture in the Zone-1 (Srikakulam, Vizianagaram and Visakhapatnam districts) of Andhra Pradesh in the post-judgment period could be cited as a typical example of this phenomenon. After the aquaculture authority was set up, as on December 1998, 314 application forms were sold of which only 176 was received by the Fisheries Department. Out of this, 68 are with the ADFS, 37 had been sent to the state level screening and only has been forwarded to Aquaculture Authority (information revealed by K. Satyam, RDD,

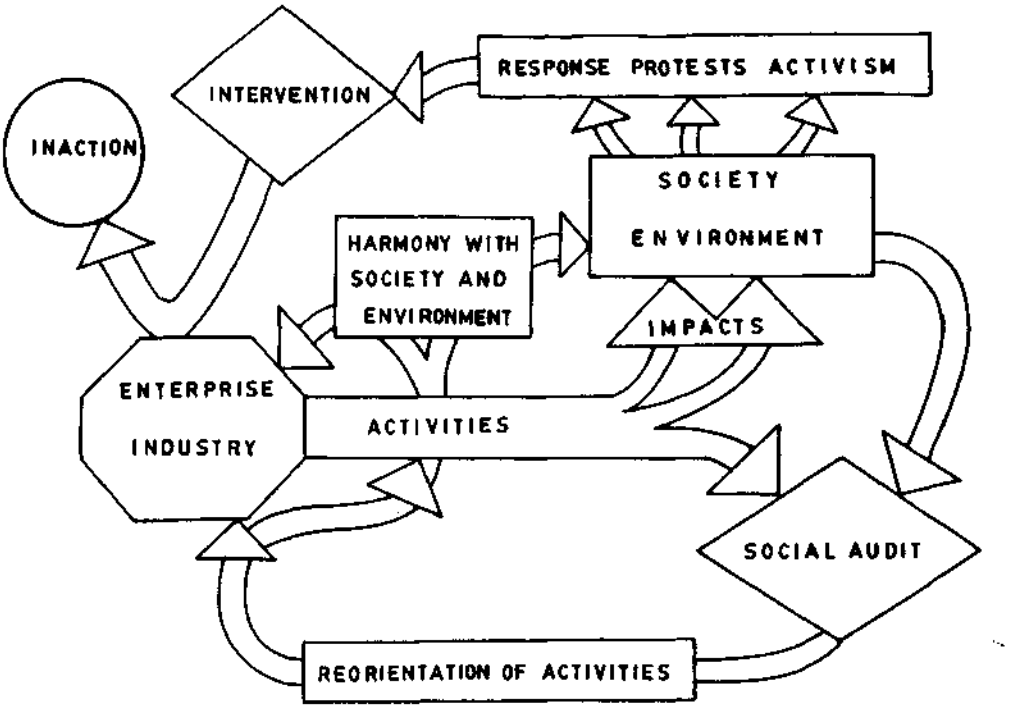

Fig. 1: Conceptual diagram showing the dynamics of the enterprise in its environment and the role of social audit in the process of bringing harmony in the system

Fisheries, Govt.of AP at the monthly meeting of the Forum of Fisheries Professionals, Visakhapatnam).

The question of evolving an eco-friendly sustainable aquaculture system will remain elusive as long as the system is tied up in the legal tangle. Unless some attempts are made to analyze the dynamics of the causative factors, and reorient actions in harmony with them, these problems will remain perennial. Fortunately, however, the situation has not drifted into an irreversible state and a transformation is quite feasible within a reasonable time horizon. The basic requirement is the evolution of transparent environment where the activities (and their repercussions) of every component is open for unbiased observation and

evaluation by every other component in the system. Social audit is identified as an ideal method for bringing in the transparency and effecting the transformation. This paper attempts to identify and examine the activities of the aquaculture industry having an impact on the immediate environment and to elaborate how social audit would help to neutralize the conflict situation in aquaculture industry.

Methodology

An overview of the current environment and social issues in the aquaculture industry is made by heavily drawing from literature and information gathered from personal contacts with people in the field. The idea of social audit as relevant to the aquaculture industry was developed based on the available literature. The conceptual elaboration is mainly done based on the author's perception of the issues. A questionnaire method was adopted to collect preliminary information from the farmers and to assess their awareness of the concept of social audit.

Social audit

Though Bowen (1953) first proposed the notion that business should make social audit of its activities more than forty years ago, the idea remained dormant for many years and has gained significant attention in the past two decade in the developed countries, particularly in USA. However, the concept is yet to make any visible influence on the corporate philosophy in most of the developing countries. As far as India is concerned, the idea is yet to catch up with the corporate world. Tata Iron and Steel Company (TISCO) has set an example in this direction by initiating some work in this area in 1980. The idea of social responsibility of business and relevance of social audit in aquaculture industry was elaborated in a recent work (Vijayakumaran, 1999). This approach will help the industry to analyze the dynamics of the causative factors, and orient the actions in harmony with them.

Social audit has been variously defined, but the one by Belkaoui (1984) appears to be more comprehensive. "Social audit-much like financial audit- is an identification, and examination of the activities of the firm in order to assess, evaluate, measure, and report, their impact

on immediate social environment"

Identification, assures tracking down and inventory of all the firm's activities having potential impact on the firm's environment. Identification will result in a definition of the social dimensions of the firm's activities in terms of social costs or social benefits depending on the nature of their impact on social environment. Assessment and evaluation, imply the categorization of the firm's impact on its environment as either positive social benefits or negative social costs. Measurement, implies the assignment of a quantitative or qualitative score to the social costs and benefits identified in assessment and evaluation. Reporting, assumes the disclosure of the firm's performance as measures.

The issues in aquaculture industry

Conflicts generally arise due to differences in perception of different stakeholders. Conflicts are more common in a rather ill informed or misinformed environment. Vijayakumaran (1999) stated that the major issues in coastal aquaculture, which drew the attention of the environmentalists, NGOs and Government were the environmental and social problems related to:

* Destruction of mangrove and other vegetation.
* Multi-user conflicts (with agriculture).
* Hyper-nutrification, and discharge of heavy load of organic and suspended matter.
* Use of chemicals, fertilizers, piscicides, antibiotics, chemotheraputants etc.
* Depletion of ground water, increase in salinity in the ground water and soil salinity of agriculture lands.
* Obstruction of access to sea front and other common resources.

No doubt, all these issues pertain to coastal aquaculture industry. They, however, give only a one sided view of the scenario. The issues

such as whether the industry is faithfully discharging its responsibility towards the stockholders are seldom discussed in any public forum. Similarly the social benefits by way of development of backward area, employment opportunities for local population, valuable foreign exchange earnings etc. were always eclipsed by the major issues listed above. On examining the activities of the coastal aquaculture industry, a set of factors contributing to social cost and social benefits could be identified (Table-1). It must be noted that though some of the factors are common to all farms, majority does not have universal applicability. More over

Table-1. A preliminary list of factors contributing to the social costs and social benefits with regard to coastal aquaculture industry.

Activities contributing to	
Social costs	**Social benefits**
Discharge of effluents with heavy loads of organic and inorganic pollutants.	Conversion of uncultivable land like sandy wasteland, abandoned salt pans, marshy unproductive areas etc.
Felling of trees providing windbreak etc.	Planting of tree cover.
Obstruction of passage to fishermen and local people to seafront.	Construction of roads which is also used by the public.
Conversion of paddy fields.	Employment to local community.
Destruction of mangroves	Construction of facilities for local community.
Contamination of source of water intake of the neighbouring farm.	Supply of seed, feed, and shrimp to the neighbouring farm/plant.
Depletion of ground water.	Providing processing facility to/ purchase of seed, feed and shrimp from neighbouring farm/plant.
Salinity changes in the soil and water.	Contribution to foreign exchange.
Import of inputs/technology.	Development of backward area.
Effect of antibacterial drugs	Benefits to shareholders.

the magnitude of these factors may vary from farm to farm. The questionnaire survey revealed these aspects.

Activities contributing to social costs

Destruction of mangroves

The importance of mangroves in sustaining the coastal ecosystem is well known. The repercussions of destruction of mangroves may manifest in various forms such as decline in the catches of some important fishes or decline in the fishery as such in the long run. Though none of the farms responded to the survey in the present study indicated any destruction of the mangroves, large areas of mangroves are reportedly converted into shrimp ponds in Andhra Pradesh and Orissa.

Conversion of paddy fields

The yield from the prawn culture being much more lucrative than the yield from paddy cultivation, many enterprising farmers have converted their paddy fields into shrimp ponds. This process, though very much beneficial to the individual farmer, is not desirable from the social point of view as it deprives the people of a primary wage good-the staple food. Only one farm had reported conversion of paddy field in the present study. However, reports from reliable sources indicate that nearly 35,000 ha of paddy fields might be under prawn culture in Godavary-Krishna belt of Andhra Pradesh. The capacity of *P. monodon* to survive and grow in zero ppt salinity has come as boon to these farmers. Incidentally these farms which are not registered with MPEDA or other regulatory authorities are constructed in simple way, allowing reconversion to paddy cultivation without much difficulty.

Another consequence, which is not apparent, of conversion of paddy fields is the displacement of labour. It was reported that there is about 25% reduction in the labour input when a unit area of paddy field is converted into shrimp pond (Nirmala, 1998). Women are the losers as they contribute major share oi labour in the paddy cultivation. Though women are employed in the shrimp processing, the labour generated is comparatively less than the labour lost.

Felling of trees and obstruction of passage

The issues and options related to the management of Casuarina plantations which acts as protection against cyclonic winds had been discussed in some recent works (Vivekanandan *et al.*, 1997; Vijayakumaran, 1998a). However none of the farmers responded in the present study reported such destruction. Obstruction of passage to seafront was reported to be another area of conflict in isolated cases. However, the farms responded to the present survey did not cause any obstruction to the passage of fishermen and other people to the seafront.

Effluents, drugs, pollution

This is one of the important points being raised against coastal aquaculture. The situation in certain segment of Nellore area where many farms draw and discharge water from/to the same creek has become a classical example of how pollution load can affect the immediate neighbourhood directly. The external costs associated with the pollution from the environmental angle was discussed in an earlier work (Vijayakumaran, 1998b). The total quantity of waste produced in the system and which load the environment is closely related to the culture system used (Bergheim and Asgard, 1996). Selection of appropriate system need to be made in order to reduce the costs identified. The uneaten and undigested feed being the major factor, the improvement in feed production technology and feeding methods and practices are likely to play a significant role in mitigating this problem. Widespread use of antibacterial drugs, which gets immediately transported to the environment, is an area of concern for all. Paucity of scientific data on the aquatic fate and effects of antibacterial drugs is one of the reasons for this concern (Weston, 1996).

Water, soil and salinity

Changes in the soil and water salinity of the nearby water bodies, depletion of ground water etc. are problems reported to be encountered in some areas. None of the farms responded to the present study indicated any such incidents.

Activities contributing to social benefits

Conversion of uncultivable land

The use of unproductive land for some productive purpose is always beneficial to the society. Two of the farms, which responded, had converted sandy area into ponds.

Planting trees, construction of roads & facilities

Planting trees as wind shelters has not been done by any of the farmers who responded. The neighbouring communities sometimes use roads constructed as approaches to the farms, at least for short distances. Construction of facilities for the local communities is a common feature of the business field. However, prawn farmers are yet to think in that direction.

Backward area development & employment generation

This is an area where the farming sector has contributing a lot to the society. Majority of the farms being located in the backward areas, the development of aquaculture activities had facilitated the development of the area. The land value had shot up very high in certain localities. The farming activities had indirectly brought in some ancillary activities also. The farm utilizes quite significant amount of local labour during the construction period and provides employment to the local community on a continuing basis.

Trade with neighbouring units

A farm may buy seeds from a nearby hatchery and sell its produce to a neighbouring processing plant. If the farm is vertically integrated, other neighbouring units use the facilities of hatchery and processing units. Thus giving direct support to the neighbouring business units.

Benefits to foreign exchange & share holders

Foreign exchange earning is the largest contribution from the aquaculture industry to the society. As the commodity is meant for export markets the foreign currency earning helps to some extent to miti-

gate the problem of trade balance. As far as the corporate farms are concerned, the value earned per share is an important benefit. However, if the market values of the shares are to be considered as an indication of the performance, the corporate farms have totally betrayed the shareholders.

The process of neutralisation

The need of the time is a transition from the regulatory regimes to a regime of voluntary action motivated by an innate desire for harmonious existence. This calls for a basic change in the business ethics. Understanding and discharging of social responsibilities is fundamental aspect of ethically sound business. The damaging and degraded state of most aquatic systems combined with public concerns about adding new sources of pollution to the already overburdened ecosytem will require aquaculture to develop ecosystem approaches and sustainable operating procedures (Costa-Pierce, 1996). If the criterion is sustainability of an activity at micro level, there will be very few activities, which would qualify perfectly. As Muir (1996) has suggested, large-scale sustainability does not require small scale sustainability to be universally attained. That is, it could be feasible to accept a few unsustainable activities such as high intensive aquaculture as long as their net deficit (such as depletion of renewable energy, longer terms qualitative and quantitative diminution of fish stocks) could be compensated by other activities (e.g. use of aquaculture) for rehabilitating damaged environment or indeed any other activity which has a suitably positive effect. Social audit is an ideal tool for this balancing exercise.

Once the factors contributing to the social costs/benefits are indentified, their objective assessment, evaluation and measurement and presentation will give an idea of the net cost/benefit of the farm. The process will help the management to determine the areas where it is vulnerable to public criticism. The audit report will inform the public of what the farm is doing in the area of social responsibility. Presenting a true picture about the social and environmental accountability to the public is likely to change the attitude of the stakeholders. Awareness of

the net social benefits will certainly justify the existence of an entity and nullify the factors causing conflicts.

For aquaculture industry to accept this idea, it is necessary to create an awareness of the underlying principles and the expected benefits. The present survey revealed that none of the farms were aware of the concept of social audit. However, they expressed their willingness to adopt such measures if beneficial to the sustainability of their business. The understanding of the principles and adoption of the practices will not yield any tangible benefits in the short-run. But the system will certainly move towards sustainability in the long-run.

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